universal explanation of the fact that all material things fall into natural kinds which render possible safe inductive generalizations about all members of any one kind. It was for long assumed that all atoms of one kind are exactly alike. But then came quite recently the discovery of the isotopes—atoms which in the main conform to the named type, but which in certain respects differ from it. And tfre modern description of the atom as a system of smaller units, electrons, protons, and what not, allows us to assume, and to find evidence in support of the assumption, that such systems may vary by losing or gaining such smaller units. At present it seems to be a fair assumption that these smaller units are of uniform nature, all exactly alike, as was supposed to be the case with all atoms classed under one name as of one kind. But we have no guarantee that this so-seeming fair assumption is valid.

Turning to organisms, we find that they also seem to be of a limited number of natural kinds, which render inductive generalization about them fairly safe. And the older doctrine was that species are such absolutely distinct kinds. But modern knowledge has broken down this belief by showing the existence of countless transitional forms; thus illustrating the hazardous nature of inductive generalization about biological phenomena, including the supreme generalization, the law of strict determination.

Let us note in passing that this last generalization depends upon and is derived from the assumed validity of causal explanation. Any one who

professes to repudiate causation and to confine science to description only, has no right to invoke strict determination, or indeed determination of any kind,

We may conclude this discussion of causal explanation by saying that explanation of events is never satisfying